IN THE SPECIFICATION

Please amend paragraph [0007] at page 3, line 12 to page 6, line 7, as follows:

Namely, the invention ~~in claim 1~~ provides a fluid measurement system comprising an imaging means for taking images of particles contained in a fluid to be measured at small time intervals, a control means for controlling the imaging means, and an image processing means for comparing luminance pattern distributions at a plurality of consecutive time points obtained by the imaging means to measure a moving direction and a moving amount of a particle group, and analyzing a flow field of the fluid to be measured,

the imaging means comprising a long focus optical system being of a long distance type capable of imaging a fluid to be measured a long distance away, and

the long focus optical system being provided with a shield which shields a part including a central portion of a main mirror at an arbitrary shield rate.

The invention ~~in claim 2~~ provides the fluid measurement system ~~according to claim 1~~ described above, wherein

the shield rate found by a ratio of a diameter of the shield to an aperture of the long focus optical system is provided to be arbitrarily adjustable.

The invention ~~in claim 3~~ provides the fluid measurement system ~~according to any one of claim 1 or claim 2~~ described above, wherein

the shield rate is set in a range of 20% to 60% when one particle image obtained by the imaging means across two pixels or more, and is set in a range of 0% to 40% when a plurality of particle images are contained in one pixel.

The invention ~~in claim 4~~ provides the fluid measurement system ~~according to any one of claims 1 to 3~~ described above, wherein

a secondary mirror included in the long focus optical system is supported by parallel plate glasses whose surfaces are disposed to be oriented in a direction perpendicular to the optical axis of a main mirror in the lens barrel.

The invention ~~in claim 5~~ provides the fluid measurement system ~~according to any one of claims 1 to 4~~ described above, wherein

the imaging means is of a long distance type capable of imaging a luminance pattern distribution by natural light reflection in the fluid to be measured a long distance away.

The invention ~~in claim 6~~ provides the fluid measurement system ~~according to any one of claim 1 to claim 4~~ described above, further comprising:

a laser light input means for inputting a laser light in a sheet form into the fluid to be measured,

wherein the imaging means is of a long distance type capable of imaging a luminance pattern distribution by the laser light reflection in the fluid to be measured a long distance away.

The invention ~~in claim 7~~ provides the fluid measurement system ~~according to any one of claim 1 to claim 6~~ described above, wherein

the imaging means is of a long distance type capable of imaging the fluid to be measured 10 m or greater and 20 km or less away from the set position of the imaging means.

The invention ~~in claim 8~~ provides a long focus optical system constructed by supporting a main mirror and a secondary mirror in a mirror barrel, comprising

a shield which shields a part including a central portion of a main mirror at a predetermined shield rate.

The invention ~~in claim 9~~ provides the long focus optical system ~~according to claim 8~~ described above, wherein

the shield rate found by a diameter of the shield with respect to an aperture is settable in a range of 20% to 60% when one particle image obtained by an imaging means is across two pixels or more, and is settable in a range of 0% to 40% when a plurality of particle images are included in one pixel.

The invention ~~in claim 10~~ provides the long focus optical system ~~according to claim 8 or 9~~ described above, wherein

the secondary mirror is supported by parallel plate glasses whose surfaces are disposed to be oriented in a direction perpendicular to the optical axis of a main mirror in the lens barrel.

The invention ~~in claim 11~~ provides the long focus optical system ~~according to any one of claim 7 to claim 10~~ described above, the long focus optical system being used in an imaging means in a fluid measurement system comprising the imaging means for taking images of particles contained in a fluid to be measured at small time intervals, a control means for controlling the imaging means, and an image processing means for comparing luminance pattern distributions at a plurality of consecutive time points obtained by the imaging means to measure a moving direction and a moving amount of a particle group, and analyzing a flow field of the fluid to be measured.

Please amend the paragraph at page 7, lines 13-21, as follows:

FIG. 7A to [[7F]] 7G are simulation diagrams showing particle images of a tracer (images of Airy disk) taken by using an optical telescope, FIG. 7A shows the case of a center shield rate by a center shield (center shield diameter/optical telescope aperture) of 0%, FIG. 7B shows the case of a center shield rate of 35%, and FIG. 7C shows the case of a center shield rate of 50%, FIG. 7D shows an image of an Airy disk taken with only a focal length shifted by 0.3 mm under the same condition as in FIG. 7A, [[and]] FIGS. 7E and 7F show the

images in the case of center shield rates of 35% and 50% with the focal length shifted by 0.3 mm, and 7G shows the image taken by the optical telescope of an aperture of 70 mm;

Please amend the paragraph at page 8, lines 11-15, as follows:

FIG. 11A is an original image of a parallel light source in which luminance information from a number of particles is recorded in one pixel of the CCD camera similarly to FIG. 10A, [[and]] FIGS. 11B to 11D are images simulating the case when taken by the fluid measurement system similar to that in Test Example 1, and FIG. 11E is a simulation image using a long focus optical system having an aperture of 70 mm and when the center shield rate is 0%;

Please delete the current Abstract at page 38, lines 1-13, and add in its place the new Abstract on the following page: